PTO/SB/8A (08-00)

Approved for use through 10/31/2602. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMINE CE
Under the Paperwork Reduction Act of 1995, no persons are required to resion to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 12

id to a concerton of information diffess it contains a valid OWB control number.									
	Complete if Known	0	AΡ						
Application Number	09/921,645		N	C					
Filing Date	August 03, 2001	FF	ල						
First Named Inventor	Meade et al.		2	<					
Group Art Unit	1656 1637	Ö	002	Ш					
Examiner Name	-Not Yet Assigned	Teres	x Stz	ece					
Attorney Docket Number	A-64411-2/RFT/RM	IS/RMI		L					

			U.S. PATENT DOCI	JMENTS	
Examiner Initials*	Cite No. ¹	U.S. Patent Document Number Kind Code (if known)		Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
15	1 7	4,704,193	Bowers et al.	11/1987	
	2	4,707,352	Stavrianopoulos	11/1987	
	3	4,707,440	Stavrianopoulos	-1-1/1987	
	4	4,711,955	Ward et al.	-12/1987	
	-5	<i>4</i> ,755,458	Rabbani et al.	7/1988	
17	6/	4,787,963	MacConnell	11/1998	
	7	4,840,893	Hill et al.	6/1989	
	-8	-4,849,513	Smith_et_al	7/1989	
-	9	4,868,103	Stavrianopoulos et al.	9/1989	
- <u>-</u>	10_	4,894,325	Englehardt.et.al.	1/1990	
	1-1-1	-4 ,943,523	Stavrianopoulos	7/1990	
75	12レ	4,945,045	Forrest et al.	07/1990	
	13-	4,952,685	Stavrianopoulos	8/1990	
	14-	-4,994,373	Stavrianopoulos	2/1991	
	-15_	-5,002,885	Stavrianopoulos	3/1991	
	-16	-5,013,83-1	Stavrianopoulos	5/1991	
	17-	-5,082,830	Brakel et al.	1/1992	

						FOREIGN PATENT DOCUMEN	NTS		
Examiner Initials*	Cite No.1	Forei Office	gn Patent Docun e ³ Number ⁴	nent Kind Co (if know		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
	18_	EP	0 234 938		A2	-Cranfield-Instof-Tech.	2/1987		
<u> </u>	19_	EP	0 229 943	nation and	-B1	Molecular Biosystems Inc.	7/1987		
*	20	EP	0-599-337		-A2-	Canon Kabushiki Kaisha	1/1994		
	21_	EP	0.063 879		A2_	Yale University———	-1-1/1-982		
	22	EP	0 515 615			Boehringer Nannheim	9/1996		
	23-	-CA-	2 090 904		.A1_	F. Hoffman-La-Roche	-9/1993		
J. Maranagara	-24	-JP	-238,166	T. In the long section in	.A	Mitsubishi-Corp.	1988	-abstract	
	25-	-JP	6-41183		-A2-	Mitsubishi Corp.	1994		

Examiner	Terria Hurleilia	Date	12/15/0-	
Signature	Teresa structura	Considered	12(1)(02	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box \rightarrow +

2

Sheet

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of

12

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a solection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCUSSION Number 1449A/PTO

PTO/SB/8A (08-00)

Approved for use through 10/31/2002, OMB 0651-0031

Complete if Known

Approved for use through 10/31/2002, OMB 0651-0031

Complete if Known

INFORMATION DISCUSSION Number 1449A/PTO August 03, 2001 Filing Date First Named Inventor Meade et al. 637 1656 **Group Art Unit** Examiner Name Teresa Not Yet Assigned Attorney Docket Number A-64411-2/RFT/RMS/RMK

			U.S. PATENT DOC	UMENTS	
Examiner Initials*	Cite No.1	U.S. Patent Document Number Kind Code² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
IS	26~	5,089,112	Skotheim et al.	02/1992	
	27	5,175,269	Stavrianopoulos	12/1992	
13	28し	5,180,968	Bruckenstein et al.	01/1993	
	-29_	5,241,060	-Englehardt-et-al.	8/1993	
	30_	5,242,828	-bergstrom-et-al.	-09/1993	
	31_	5,278,043	-Bannwarth-et-al.	-1/1995	
	-32_	_5,312,527	-Mikkelsen-et-al-	-5/1994	
	33	5,328,824	Ward et al.	7/1994	
15	34~	5,356,786	Heller et al.	10/1994	
TS	35	5,391,272	O'Daly et al.	02/1995	
4	36	5,403,451	Riviello et al.	4/1995	
• <u>•</u>	-37	5,436,161	Bergstrom et al.	07/1995	
ĪS	38U	5,443,701	Willner et al.	08/1995	
	39 -	5,449,767	-Ward-et-al.	-9/1995	
	40-	-5,472,881	-Beebe-et-al	_12/1995	
	41-	5,476,928	-Ward-et-al.	12/1995	
	42	-5,552,270	Khrapko et al	9/1996	

						FOREIGN PATENT DOCUMENT	'S		
Examiner	Cite No.1	Foreign Patent Document		-		Date of Publication	Pages, Columns, Lines,		
Initials*	110.	Office ³	Number⁴	Kind Co (if kno		Name of Patentee or Applicant of Cited Document	of Cited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear	T ⁶
TS	436	WO	86/05815		A1	Genentics International Inc.	03/1985		
Ç	44	WO	90/05732		A1-	-Columbia Univ.	5/1990		
•	45_	_WO_	92/10757		A1	Boehringen Mannheim	6/1992		
	46_	WO	93/22678		-A2	Mass Inst. of Tech	11/1993		
· <u>· · · · · · · · · · · · · · · · · · </u>	47	-₩0 -	-93/10267-		-A-1-	-IGEN, Inc.	5/1993		
	48_	WO_	94/22889		<u> </u>	Cis-Bio International	10/1994		
	49	WO-	-95/1597 1		A2	Calif. Inst. of Technology	6/1995		
	50-	WO	96/40712		ΑI	Calif. Inst. of Technology	12/1996		

Exam Signa	Teresa Striebella	Date Considered	12/15/02

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

*			-
Please type a	plus sign (H	-) inside this	box _

MAR 2 5 2002

PTO/SB/8A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

nder the Pap	erwork Reduction Act of	1995. n	o persons are redained to res	spond to a collection of information	lemark Office: U.S. DEPARTMEN unless it contains a valid OMB contains the contains a valid OMB contains a valid OM	TOF CO Trol-mumb	OMMERCI Der.	E E
	te for form 1449A/PTO		AT & TH	AVE	Complete if Known	Ω	ş	J
T	NFORMATIO	N DI	SCI OSIIDE	Application Number	09/921,645		2	
	STATEMENT I			Filing Date	August 03, 2001		70 (
~	(use as many she			First Named Inventor	Meade et al.	DIE D	29	T
	(1122 45 11419 511	W5 71	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Group Art Unit	1656 [637-		~	
·				Examiner Name	Not Yet Assigned Text	100	male	À
Sheet	3	of	12	Attorney Docket Number	A-64411-2/RFT/RMS/RMK	N		-

			···	U.S. PATENT DOC	UMENTS	8
Examiner Initials*	Cite No.1	U.S. Patent D		Name of Patentee or Applicant	Date of Publication of Cited Document	Pages, Columns, Lines, Where Relevant
midals.		Number	Kind Code ² (if known)	of Cited Document	MM-DD-YYYY	Passages or Relevant Figures Appear
	51	5,565,552		Magda et al.	10/1996	
	-52	5,571,568		-Ribi et al.	11/1996	
	53-	5,573,906		Bannwarth et al.	11/1996	
*	54	5,591,578		Meade et al.	1/1997	
<u>-,</u>	55	5,595,908		Fawcett et al.	1/1997	
	56	5,601,982		Sargent et al.	2/1997	
	57	-5,620,850		Bamdad et al.	4/1997	
13	58 L	5,632,957		Heller et al.	05/1997	
13	59~	5,700,667		Marble et al.	12/1997	
·	60	5,705,348		Meade et al.	1/1998	
	-61_	5,741,700		Ershov et al.	4/1998	
	62	5756,050		Ershov et al.	5/1998	
	63	5,770,369		Meade et al.	6/1998	
	64	5,770,721		Ershov et al.	6/1998	
	65-	-5,776,672		Hashimoto et al.	7/1998	
	66	5,780,234		-Meade-et al.	7/1998	

						FOREIGN PATENT DOCUME	NTS		
Examiner	Cite No.1	Foreign	Patent Docum	nent		Name of Detents on April 2014	Date of Publication of	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	
Initials*	110.	Office ³	Number ⁴	Kind Co (if know		Name of Patentee or Applicant of Cited Document	Cited Document MM-DD-YYYY		T ⁶
4	67	WO-	-97/01646		A2	Univ. of N. Carolina	1/1997		
	68	WO	97/44651		-A1	AU Membrane and	-11/1997		
	69	-W0	97/27329		A1	Univ. of Chicago	7/1997		,
	70	WO	98/27229		Al	Univ. of Chicago	6/1998		
	71	WO	98/28444		A2	Univ. of Chicago	7/1998		
	72	WO	98/35232		A2-	Univ. of N. Carolina	8/1998		
			ļ						
<u> </u>									
									1

Examiner Signature	Terera Structeclea	Date Considered	12/15/02

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

MAR 2 5 2002

PTO/SB/8A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031 S. Patent and Trademark Office: U.S. DEPARTMENT OF DMMERCE

Approved for use through 10/31/2002. OMB 06
Under the Paperwork Reduction Act of 1995, no persons are required be spond to a contestion of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

4

Sheet

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of

12

ADEMA	Complete if Known		
Application Number	09/921,645	FUE	PR
Filing Date	August 03, 2001		ල
First Named Inventor	Meade et al.		()
Group Art Unit	1656 637	8	001
Examiner Name	Not Yet Assigned Ter	era stare	lec
Attorney Docket Number	A-64411-2/RFT/RMS/RM		

				U.S. PATENT DOC	UMENTS	
Examiner Initials*	Cite No.1	U.S. Patent Docume	ent	Name of Patentee or Applicant	Date of Publication of	Pages, Columns, Lines, Where Relevant
miuais*		Number Kind		of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant
		(if				Figures Appear
· .		known)				
	73-	5,824,473		Meade et al.	10/1998	
T	74 6	5,837,859		Teoule et al.	11/1998	
21	75 V	5,849,486		Heller et al.	12/1998	
	76	5,851,772		Mirzabekov et al.	12/1998	
<u> </u>	77	5,952,172		Meade et al.	9/1999	
	78	6,087,100		Meade et al.	-07/2000	
IS	79 0	,6,096,825		Garnier	08/2000	
TS	80 0	6,177,250		Meade et al.	01/2001	
TS	81 🗸	6,180,352		Meade et al.	01/2001	
TS	82 V	6,200,761		Meade et al.	03/2001	
15	83 🗸	6,207,369	В	Wohlstadter et al.	03/1995	
TS	84 🗸	6,238,870		Meade et al.	05/2001	
						····

		,			FOREIGN PATENT DOCUME	ENTS		
Examiner Initials*	Cite No. ¹	Foreign Office ³	Number ⁴ (if kr	Code²	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Te
	85	WO	99/67425	A2	Clinical Micro Systems	12/1999	3 11	1
	86-	WO_	99/14596	A1	AB-Sangtec Medical	3/1999		
-	87	WO_	99/37819	A2-	-Clinical Micro Systems	07/1999		
	88	EP	0 589 867	_ B1_	Pharmacia-Biosensor	04/1996		\top
·	-89-	-wo-	90/05303	A1	Pharmacia-AB-	05/1990		
Examiner Signature		eve	sa Strel	ecl	Date Considered	12/15	102	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

Please type a plus sign (+) inside this box _	Please type	a plus sign	(+) inside	this box	
---	-------------	-------------	------------	----------	--

ease type a _l	plus sign (+) inside this beerwork Reduction Act of	$0 \times \rightarrow [$	o persons are required to despe	U.S. Patent and Trace	P Approved for use through 10/31/200 demark Office: U.S. DEPARTMEN unless it contains a valid OMB cont	TO/SB/81 12. OMB (TOFTSO)	3 (08-00) 0651-0031 MMERCE	
	tute for form 1449]				Complete if Known			F
				Application Number	09/921,645		2	
			ISCLOSURE	Filing Date	August 03, 2001		8	Fri
STA	TEMENT	$\mathbf{BY} A$	APPLICANT	First Named Inventor	Meade et al.	20	69	
	(use as many sho	eets as	necessary)	Group Art Unit	1656/637	<u></u>	200	
				Examiner Name	Not Yet Assigned Teres	assi	etel	
Sheet	5	of	12	Attorney Docket Number		_		

	·	OTHER DRIOD AND MONDATENESS AND THE PARTY OF	
ļ	T	OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS Include name of the author (in CARITAL LETTERS) title of the article (when consension) title of the	т—
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	90	Aizawa et al., "Integrated Molecular Systems for Biosensors," Sensors and Acuators B, B@\$ (Nos 1/3)	
<u> </u>	<u> </u>	Part 1:1-5 (March 1995).	ـــــــ
	91	Albers et al., "Design of Novel Molecular Wires for Realizing Long-Distance Electron Transfer," Biochemistry and Bioenergetics, 42:25-33 (1997).	
	92	Alleman, K.S., et al., "Electrochemical Rectification at a Monolayer-Modified Electrode," J. Phys. Chem., 100:17050-17058 (1996).	
	93	Arkin et al. "Evidence for Photoelectron Transfer Through DNA Intercalation," J. Inorganic Biochem. Abstracts, 6th International Conference on Bioinorganic Chemistry, 51(1) & (2):526 (1993).	
	94	Barisei et al., "Conducting Polymer Sensors," TRIP, 4(9):307-311 (1996).	
	95	Baum, R. M., "Views on Biological, Long-Range Electron Transfer Stir Debate," C&EN, pp 20-23 (1993).	
	96	Bechtold, R., et al., "Ruthenium-Modified Horse Heart Cytochrome c: Effect of pH and Ligation on the Rate of Intramolecular Electron Transfer between Ruthenium(II) and Heme(III)," J. Phys. Chem., 90(16):3800-3804 (1986).	
13	97	Beattie et al., "Genosensor Technology," Clinical Chemistry, 39(4): 719-722 (1993).	
	98	Bidan, "Electroconducting conjugated polymers: new sensitive matrices to build up chemical or	
		electrochemical sensors. A Review.," Sensors and Actuators, B6:45-56 (1992).	1 1
	99	Biotechnology and Genetics: Genetic Screening Integrated Circuit," The Economist (February 25-March 3, 1995).	
	100	Blonder et al., "Three-dimensional Redox-Active layered Composites of Au-Au, Ag-Ag and Au-Ag Colloids," Chem. Commun. 1393-1394 (1998).	
	101	Boguslavsky, L. et al., "Applications of redox polymers in biosensors," <i>Solid State Ionics</i> , 60:189-197 (1993).	
15	102	Bamdad, C. "A DNA self-assembled monolayer for the specific attachment of unmodified double - or single stranded DNA," Biophysical Journal, 75:1997-2003 (1988).	
	103	Bowler, B. E., et al., "Long-Range Electron Transfer in Donor (Spacer) Acceptor Molecules and Proteins," Progress in Inorganic Chemistry: Bioinorganic Chemistry, 38:259-322 (1990).	
	104	Brun, A. M., et al., "Photochemistry of Intercalated Quaternary Diazaaromatic Salts," J. Am. Chem. Soc., 113:8153-8159 (1991).	
-	105	Bumm, et al., "Are Single Molecular Wires Conducting?," Science 271:1705-1707 (1996).	
	106	Cantor, C.R. et al., "Report on the Sequencing by Hybridization Workshop," Genomics, 13:1378-1383	
		(1992).	
	107	Carr et al., "Novel Electrochemical Sensors for Neutral Molecules," Chem. Commun., 1649-1650	
	 	(1997).	1
	108	Carter et al., "Voltammetric Studies of the Interaction of Metal Chelates with DNA. 2. Tris-Chelated Complexes of Cobalt(III) and Iron(II) with 10-Phenanthroline and 2,2'-Bipyridine," J. Am. Chem. Soc.,	
		<u>11:8901-8911 (1989).</u>	<u> </u>

			r
Examiner		Date	\
Signature	Tentoa Starple alla	Considered	
Biginature		Considered	(1)

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Unique citation designation number. 2 Applicant is to place a check mark here if English Language Translation is attached.

1077841

•			
Please type a	plus sign (+) inside this box _	∠ ∓

PTO/SB/8B (08-00)

Under the Paperwork Reduction Act of 1995, no persons are required a response	U.S. Patent and Trac		IB 0651-0031 COMMERCE	Γ
Substitute for form 1449B/PTO		Complete if Known		Ī
•	Application Number	09/921,645	20	-
INFORMATION DISCLOSURE	Filing Date	August 03, 2001	సి	ſ
STATEMENT BY APPLICANT	First Named Inventor	Meade et al.		_
	Group Art Unit	1656 1637-	90	` T
(use as many sheets as necessary)	Examiner Name	Not Yet Assigned Tereral	ncles	<u> </u>
Sheet 6 of 12	Attorney Docket Number	A-64411-2/RFT/RMS/RMK		

Examiner	Cita	OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the	
Examiner Initials*	Cite No. ¹	item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	'
	109	Chang, I-Jy, et al., "High-Driving-Force Electron Transfer in Metalloproteins: Intramolecular	T
<u> </u>		Oxidation of Ferrocytochrome c by Ru(2,2'-bpy) ₂ (im)(His-33) ³⁺ ," J. Am. Chem. Soc., 113:7056-7057	
- <u></u>		(1991).	1
	110	Chidsey, et al., "Coadsorption of Ferrocene-Terminated and Unsubstituted Alkanethiols on Gold"	T
		Electroactive Self-Assembled Monolayers," J. Am. Chem. Soc., 112:4301-4306 (1990).	l
	111	Chidsey, C.E.D., et al., "Free Energy and Temperature Dependence of Electron Transfer at the Metal	Ť
		Electrolyte Interface," Science, 251:919-922 (1991).	
	112	Chrisey, et al., "Covalent attachment of synthetic DNA to self-assembled monolayer films," Nucleic	Ť
<u> </u>		Acids Research, 24(15):3031-3039 (1996).	
	113	Clery, "DNA Goes Electric," Science, 267:1270 (1995).	†
	114	Commerce Business Daily Issue of September 26, 1996 PSA#1688.	t
	115	Davis, L. M., et al., "Electron Donor Properties of the Antitumour Drug Amsacrine as Studied by	t
		Fluorescence Quenching of DNA-Bound	l
	116	Davis, L. M., et al., "Elements of biosensor construction," Enzyme Microb. Technol. 17:1030-1035	十
- 		(1995).	l
	117	Degani et al., "Direct Electrical Communication between Chemically Modified Enzymes and Metal	†
		Electrodes. 2. Methods for Bonding Electron-Transfer Relays to Glucose Oxidase and D-Amino-Acid	١
		Oxidase," J. Am. Chem. Soc. 110:2615-2620 (1988).	
-	118	Degani, Y., et al., "Electrical Communication between Redox Centers of Glucose Oxidase and	t
		Electrodes via Electrostatically and Covalently Bound Redox Polymers," J. Am. Chem. Soc., 111:2357-	ı
		2358 (1989).	
	119	Degani, Y., et al., "Direct Electrical Communication between Chemically Modified Enzymes and Metal	t
		Electrodes. 1. Electron Transfer from Glucose Oxidase to Metal Electrodes via Electron Relays, Bound	
		Covalently to the Enzyme," J. Phys. Chem., 91(6):1285-1288 (1987).	
	120	Deinhammer, R.S., et al., "Electronchemical Oxidation of Amine-containing compounds: A Route to	T
		-the-Surface Modification of glassy carbon electrodes," Langmuir, 10:1306-1313 (1994).	
	121	Dreyer, G. B., et al., "Sequence-specific cleavage of single-stranded DNA: Oligodeoxynucleotide-	T
		EDTA-Fe(II)," Proc. Natl. Acad. Sci. USA, 82:968-972 (1985).	
	122	Drobyshev, A. et al., "Sequence Analysis by Hybridization with Oligonucleotide Microchip:	T
		Identification of β-thalassemia Mutations," Gene, 188:45-52 (1997).	
	123	Dubiley, S. et al., "Fractionation, phosphorylation and Ligation on Oligonucleotide Microchips to	T
		Enhance Sequencing by Hybridization," Nucleic Acids Research, 25(12):2259-2265 (1997).	
	124	Durham, B., et al., "Electron-Transfer Kinetics of Singly Labeled Ruthenium(II) Polypyridine	t
		Cytochrome c Derivatives," Advances in Chemistry Series, 226:181-193 (1990).	

Examiner Signature	Teresa Strelcclia	Date Considered	12/15/07-
	, , , , , ,	Considered	1041070

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English Language Translation is attached.

Please type a plus sign (+) inside this box	+
---	---

PTO/SB/8B (08-00)

nder the Pap	erwork Reduction Act of	1995. n	o persons are required	ho respo	S. Patent and Trace ond to a collection of information	Approved for use through 10/31/2002. demark Office: U.S. DEPARTMENT unless it contains a valid OMB contro	OMB OE CO Lucino	0651-0031 MMERCE er.	
	e for form 1449B/PTO			& TRA	EMARK	Complete if Known	우		Į
T	NITODALATIO	N DIG			Application Number	09/921,645		Α	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT					Filing Date	August 03, 2001	N	∂R	
(use as many sheets as necessary)				First Named Inventor	Meade et al.	H	2	H	
	(use as many sm	seis us n	ecessury)		Group Art Unit	1656 1637	3 16	G 3	
					Examiner Name	Not Yet Assigned Terera		etzi.	
Sheet	7	of	12		Attorney Docket Number	A-64411-2/RFT/RMS/RMK	/20	2	

	<u> </u>	Attorney Docket Number A-04-11-2/10 1/10/15/10/10	
	 	OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
	125	Durham, B., et al., "Photoinduced Electron-Transfer Kinetics of Singly Labeled Ruthenium	T
		Bis(bipyridin) Dicarboxybipyridine Cytochrome c Derivatives," Biochemistry, 28:8659-8665 (1989).	
· •-	126	Elghanian et al., "Selective Colorimetric Detection of Polynucleotides Based on the Distance-	Τ
		Dependent Optical Properties of Gold Nanoparticles," Science, 277:1078-1081 (1997).	
	127	Elias, H., et al., "Electron-Transfer Kinetics of Zn-Substituted Cytochrome c and Its	Τ
)		Ru(NH ₃) ₅ (Histidine-33) Derivative," J. Am. Chem. Soc., 110:429-434 (1988).	
	128	Farver, O., et al., "Long-range intramolecular electron transfer in azurins," Proc. Natl. Acad. Sci. USA,	T
\ -		86:6968-6972 (1989).	
	129	Fotin, A. et al., "Parallel Thermodynamic Analysis of Duplexes on Oligodeoxyribonucleotide	T
		Microchips," Nucleic Acids Research, 216(6):1515-1521 (1998).	
	130-	Fox, M. A., et al., "Light-Harvesting Polymer Systems," C&EN, pages 38-48 (March 15, 1993).	T
	131	Fox, L. S., et al., "Gaussian Free-Energy Dependence of Electron-Transfer-Rates-in-Iridium	T
		Complexes," Science, 247:1069-1071 (1990).	
	132	Francois, J-C., et al., "Periodic Cleavage of Poly(dA) by Oligothymidylates Covalently Linked to the	T
·		1,10-Phenanthroline-Copper Complex," Biochemistry, 27:2272-2276 (1988).	
	133	Friedman, A. E., et al., "Molecular 'Light Switch' for DNA: Ru(bpy)2(dppz)2+," J. Am. Chem. Soc.,	T
***************************************		112:4960-4962 (1990).	l
	134_	Fromherz, P., et al., "Photoinduced Electron Transfer in DNA Matrix from Intercalated Ethidium to	T
		Condensed Methylviologen," J. Am. Chem. Soc., 108:5361-5362 (1986).	
	135	Gardner, et al., "Application of conducting polymer technology in microsystems," Sensors and	T
·		Actuators, A51:57-66 (1995).	١
	136	Gregg, B. A., et al., "Redox Polymer Films Containing Enzymes. 1. A Redox-Conducting Epoxy	Ť
		Cement: Synthesis, Characterization, and Electrocatalytic Oxidation of Hydroquinone," J. Phys.	l
		Chem., 95:5970-5975 (1991).	l
	137	Gregg, B. A., et al., "Cross-linked redox gels containing glucose oxidase for amperometric biosensor	T
***************************************		applications," Anal. Chem., 62:258-263 (1990).	
30 1	138	Guschin, D. et al., "Manual Manufacturing of Oligonucleotide, DNA, and Protein Microchips,"	T
<u> </u>		Analytical Biochemistry, 250:203-211 (1997).	7
	139	Guschin, D. et al., "Oligonucleotide Microchips as Genosensors for Determinative and Environmental	T
		Studies in Microbiology," 63(6):2397-2402 (1997).	
	140	Hashimoto, et al., "Sequence-Specific Gene Detection with a Gold Electrode Modified with DNA	T
	<u> </u>	Probes and an Electrochemically Active Dye," Anal. Chem. 66:3830-3833 (1994).	
	141	Hegner, et al., "Immobilizing DNA on gold via thiol modification for atomic force microscopy imaging	T
		in buffer solutions," <i>FEBS</i> 336(3):452-456 (1993).	

Examiner Signature	Teresa Streleclea	Date Considered	12/15/02

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English Language Translation is attached.

4				
Please type a	plus sign (+) inside	this hov	,

Sheet

8

Approved for use through 10/31/2002. OMB 0651-0031

Page Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Respond to a collection of information unless it contains a valid OMB control number.

Complete: Comp

der the Paperwork Reduction Act of 1995, no persons are required
Substitute for form 1449B/PTO
DIFORM TON DYGGE OF THE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of

12

ADEMARN	Complete if Known				
Application Number	09/921,645	<u>Q</u>			
Filing Date	August 03, 2001	0 =			
First Named Inventor	Meade et al.	Z			
Group Art Unit	1656-1637				
Examiner Name	Not Yet Assigned Texto	Structers			
Attorney Docket Number	A-64411-2/RFT/RMS/RMK	00			

<u> </u>		N	-10
	<u> </u>	OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	142	Heller, A., "Electrical-Wiring of Redox Enzymes," Acc. Chem. Res., 23:128-134 (1990).	
_	143	Heller et al., "Fluorescent Energy Transfer Oligonucleotide Probes," Fed. Proc. 46(6):1968 (1987) Abstract No. 248.	
	144	Heller, A., et al., "Amperometric-biosensors-based on three-dimensional hydrogel-forming epoxy networks," Sensors and Actuators, 13-14:180-183 (1993).	
	145		+
	146	Ho "DNA-Mediated Electron Transfer and Application to 'Biochip' Development," Abstract. Office-of Naval Research (Report Date: July 25, 1991) 1-4, RR04106.	
	147	Hobbs et al., "Polynucleotides Containing 2'-Amino-2'deoxyribose and 2'-Azido-2'-deoxyriose," Biochemistry, 12(25):5138-5145 (1973).	
	148	Hsung, et al., "Thiophenol Protecting Groups for the Palladium-Catalyzed Heck Reaction: Efficient Syntheses of Conjugated Arylthiols," <i>Tetrahedron Letters</i> . 36(26):4525-4528 (1995).	
	149	Hsung, et al., "Synthesis and Characterization of Unsymmetric Ferrocene-Terminated Phenylethynyl Oligomers," Organometallics, 14:4808-4815 (1995).	
	150	Jenkins et al., "A Sequence-Specific Molecular Light Switch: Tebhering of an Oligonucleotide to a Dipyridophenazine Complex of Ruthenium (II), J. Am. Chem. Soc., 114:8736-8738 (1992).	
	151	Johnston et al., "Trans-Dioxorhenium(V)-Mediated Electrocatalytic Oxidation of DNA at Indium Tin-Oxide Electrodes: Voltammetric Detection of DNA Cleavage in Solution," <i>Inorg. Chem.</i> , 33:6388-6390 (1994).	
0	152	Kamat et al., J. Phys. chem., 93(4):1405-1409 (1989). Abstract	†
	153	Katritzky, et al., "Pyridylethylation - A New Protection Method for Active Hydrogen Compounds," Tetrahedron Letters, 25(12):1223-1226 (1984).	
	154	Kelley, S.O. and J.K. Barton, "Electrochemistry of Methylene Blue Bound to a DNA-Modified— Electrode," <i>Bioconjugate Chem.</i> , 8:31-37 (1997).	
	155	Kojima et al., "A DNA Probe of Ruthenium Bipyridine Complex Using Photocatalytic Activity," Chemistry Letter, pp 1889-1982 (1989).	
	156	Korri-Youssoufi et al., "Toward Bioelectronics: Specific DNA Recognition Based on an Oligonucleotide-Functionalized Polypyrrole," J. Am. Chem. Soc., 119(31):7388-7389 (1997).	
	157	Laviron, E., "A.C. Polarography and Faradaic Impedance of Strongly Adsorbed Electroactive Species. Part I: Theoretical and Experimental Study of a Quasi-Reversible Reaction in the Case of a Langmuir Isotherm," J. Electroanal. Chem., 97:135-149 (1979).	
	158	Laviron, E., "A.C. Polarography and Faradaic Impedance of Strongly Adsorbed Electoactive Species. Part III: Theoretical Complex Plane Analysis for a Surface Redox Reaction," J. Electroanal. Chem., 105:35-42 (1979).	
	159	Lee, et al., "Direct Measurement of the Forces Between Complementary Strands of DNA," Science, 266:771-773 (1994).	

Examiner		Date		
Signature	Terres Startes estate	Considered	12/15/02	
	TOUS STOULDE	Considered		

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English Language Translation is attached. 1077841

Please type a	plus sign	(+) inside this b	ox 🛶
---------------	-----------	-------------------	------

PTO/SB/8B (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE a collection of information unless it contains a valid OMB control number.

Sheet

9

Please type a plus sign (+) inside unis pos _______

Under the Paperwork Reduction Act of 1995, no persons are required to respond

Form 1449B/PTO

RADEMARY INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of

12

Complete if Known **Application Number** 09/921,645 **Filing Date** August 03, 2001 First Named Inventor Meade et al. Group Art Unit 1656-6637 **Examiner Name** Terero sha Not Yet Assigned

A-64411-2/RFT/RMS/RMK

	· · · · · · · · · · · · · · · · · · ·	OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
	160	Lenhard, J.R., et al., "Part VII Covalent Bonding of a Reversible- Electrode Reactanbt to Pt Electrodes	1
•		Using an organosilane Reagent" J. Electronal. Chem., 78:195-201 (1977).	_
***************************************	161	Lincoln et al., "Shorting Circuiting-the-Molecular Wire," J. Am. Chem. Soc., 119(6)1454-1455	
		(1997).	_
•	_162	Lipkin "Identifying DNA-by-the Speed of Electrons," Science News, 147(8):117 (1995).	
	163	Livshits, M. et al., "Theoretical Analysis of the Kinetics of DNA Hybridization-with-Gel-Immobilized	
		Oligonucleotides," Biophysical Journal, 71:2795-2801 (1996).	
	164	Maskos, et al., "Oligonucleotide hybridisations on glass supports: a novel linker for oligonucleotide	
	<u></u>		
		Research, 20(7):1679-1684 (1992).	_
	165	McGee, et al., "2'-Amino-2'-deoxyuridine via an Intramolecular Cyclization of a	,
	<u>.</u>	Trichloroacetimidate," J. Org. Chem., 61:781-785 (1996).	
İ	166	Meade, T. J., et al., "Electron Transfer through DNA: Site-Specific Modification of Duplex DNA with	
		Ruthenium Donors and Acceptors," Angew Chem. Int. Ed. Engl., 34:352-354 (1995).	,
	167	Meade, T. J., "Driving-Force Effects on the Rate of Long-Range Electron Transfer in Ruthenium-	
₹.	<u> </u>	Modified Cytochrome c," J. Am. Chem. Soc., 111:4353-4356 (1989).	
	-168	Mestel, "'Electron Highway' Points to Identity of DNA," New Scientist, p. 21 (1995).	
*	169	Millan, K.M. and Mikkelsen, S.R., "Sequence-Selective Biosensor for DNA Based on Electroactive	7
		Hybridization Indicators," Anal. Chem., 65:2317-2323 (1993).	
	170	Millan, K.M., et al., "Covalent Immobilization of DNA onto Glassy Carbon Electrodes,"	7
		Electroanalysis, 4(10):929-932 (1992).	
. 1	171	Millan, et al., "Voltammetric DNA Biosensor for Cystic Fibrosis Based on a Modified Carbon Paste	†
		Electrode," Anal. Chem., 66:2943-2948 (1994).	
	172	Miller, C., "Absorbed ω-Hydroxy Thiol Monolayers on Gold Electrodes: Evidence for Electron-	†
•		Tunneling to Redox Species in Solution," J. Phys. Chem., 95:877-886 (1991).	
	173	Mirkin et al., "A DNA-based Method for Ratioally Assembling Nonoparticles into Macroscopic	†
		Materials," Nature, 382:607-609 (1996).	
	174	Mirzabekov, A. et al., "Dna Sequencing by Hybridization - a Megasequencing Method and a	†
		Diagnostic Tool," Tibtech, 12:27-32 (1994).	
	175	Mitchell et al., "Programmed Assembly of DNA Functionalized Quantum Dots," J. Am. Chem. Soc.,	+
~		121:8122-8123 (1999).	

Attorney Docket Number

Examiner		Date	10.1
Signature	I evera strelection	Considered	12/15/07

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English Language Translation is attached.

Please type a plus sign (+) inside this box — +

MAR 2 5 2002

Approved for use through 10/31/2002. OMB 0651-0031

When the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number. PADEMED Acation Number Complete if Known Substitute for form 1449B/PTO 09/921,645 Ш INFORMATION DISCLOSURE August 03, 2001 STATEMENT BY APPLICANT First Named Inventor Meade et al. (use as many sheets as necessary) 1656-1637 Group Art Unit **Examiner Name** Net Yet Assigned

					Examiner Nume	Hot 16t 1351giled 16 KIU	11/	
Sheet	10	cf	12		Attorney Docket Number	A-64411-2/RFT/RMS/RMK	(C)	
	·	OTVI	ED DDIOD A	DW MON	O A COURT OF THE PARTY OF THE	O CATA CENTRO		<u> </u>
	<u> </u>				PATENT LITERATURE D			
Examiner Initials*	Cite No.1	item	(book, magazine	, journal, seria publishe	If ALLETTERS), the of the article, symposium, catalog, etc.), date, er, city and/or country where publications.	cle (when appropriate), title of the page(s), volume-issue number(s), ished.	900	T ²
	178	Mucic et al., "I	NA-Directed	Synthesis	of Binary Nanoparticle No	etwork Materials," J. Am. Che	em	
		Soc., 120:1267			·			
	179	_	•			cenyl Groups Attached to their	r 5'-	
~	 	Termini: Electr	rochemical C l	haracteriza	tion of a Redox-Active Nu	cleotide Monolayer," Chem.		
	<u> </u>	Commun., pp. 5					···-	<u> </u>
	180	Murphy, C. J.,	ct al., "Long-	Range Pho	t oinduced Electron Transf	er Through a DNA Helix," Sc	cience,	
		262:1025-1029	(1993).				<u>,_</u>	ļ
	181		-		`	of Excited Ru(II) Polypyridyls		
***************************************	ļ		Role of the Nu	i cleic Acid	Double Helix," Photocher	nistry and Photobiology, 54(4):499-	
		509 (1991).						<u> </u>
	182	i			o-Microanalysis with Nucl	eic Acid-Modified Electrodes))	
		Electroanalysis						
	183		-	0 , ,	•	a-and Decanucleotides Exten	ded by	
	104				ids Research, 24(15):2998			-
	184			urrent-Flov	v in DNA Could Lead to F	faster Genetic Testing," Scient	tific_	
	107	American, 33 (•	╄
	185	, , , , , , , , , , , , , , , , , , ,				or the manufacture of DNA ar	nd-	
···	106				alytical Biochemistry, 259		1-	┼
	186	-1·	•		ods of DNA and RNA-Fuc	prescent Labeling," Nucleic A	cias	
	187	Research, 24(22			Electron Transfer Potyus	on Motal Camplayan Madietad	hv	╂─
	187	DNA, Science,			Election Transfer Delwee	en Metal-Complexes Mediated	r oy ~	
<u> </u>	188				rular Wires and Switches	the Brooker Ions," Biosystem	c	
** <u>***********************************</u>	100	35:107-111 (19		STORE IVIOLOG	outar wires and bwitches.	the Diooker ions, _Diosystem		
	189			clical Perio	dicity of DNA-Determine	d by Enzyme Digestion," Nati	tko	
		286:573-578 (1	•				·	
	190			n Transfer	in DNA: Predictions of E	Exponential Growth and Decay	y-of	
			•		e," J. Am. Chem. Soc., 11.	-	,	
	191					led Monolayers of 11-Ferrocei	n yl-1 -	\top
					oc. Jpn., 66(4):1032-1037	•	•	
	192					ruthenium(II) Binds to DNA-	by	
			•		31(39):9319-9324 (1992).		<u>*</u>	
	193					on and X-ray Structures of B	is(9-	
. 11. 21				•	· · · · · · · · · · · · · · · · · · ·	omplexes and Chemistry Rele	vant-to	
		Metal-Modified	l Nucelobase	Triples and	Quartets," J. Am. Chem.	Soc. 118:4124-4132 (1996).		<u></u>
	194	-				ase and Electrodes via Redox		
	·	Mediators Bour (1991).	nd with Flexil	ole Chains	to the Enzyme Surface," J	T. Am. Chem. Soc., 113:1394-1	1397	
	<u> </u>			1				

Examiner Signature	Teresa Stralectia	Date Considered	12/17/02

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Unique citation designation number. 2 Applicant is to place a check mark here if English Language Translation is attached.

Please type a plus sign (+) inside this box	Ţ	4
t icase take a bigs sign () upine mis nox —)	١Ľ	+

PTO/SB/8B (08-00)

Under the Par	perwork Reduction Act of	1995. n	o persons are required to res	bond to explication of information i	emark Office: U.S. DEPARTMENT unless it contains a valid OMB contr	2. OMB I OF CC ol numb	0651-0031 MMERCE	
	te for form 1449B/PTO		781	RADEMI	Complete if Known			
T	NFORMATIO	N DIG	SCI OSUDE	Application Number	09/921,645		1	口
	STATEMENT I			Filing Date	August 03, 2001			П
	(use as many she			First Named Inventor	Meade et al.		' À	
	(**** **** ****************************		000,047,97	Group Art Unit	1656 [637-		<u> </u>	
				Examiner Name	Not Yet Assigned Texeso	Shire	leaser	_
Sheet	11	of	12	Attorney Docket Number	A-64411-2/RFT/RMS/RMK	90	00,	Г
						190		

Blicci	1 1	Attorney Docket Number A-64411-2/RF1/RMS/RMK 6
,"		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS
T) .	6	Include name of the author (in CAPITAL I ETTERS) title of the article (when appropriate) title of the
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	195	Schumm, et al., "Iterative Divergent/Convergent Approach to Linear Conjugated Oligomers by
	ļ	Successive Doubling of the Molecular Length: A Rapid Route to a 128 Å-Long Potential Molecular_
		Wire," Angew. Chem. Int. Ed. Engl., 33(11):1360-1363 (1994).
	196	Sigal et al., "A Self-Assembled Monolayer for the Binding and Study of Histidine-Tagged-Proteins by
		Surface Plasmon Resonance," Anal. Chem., 68(3):490-497 (1996).
·	197_	Sloop et al., "Metalloorganic labels for DNA sequencing and mapping," New. J. Chem., 18: 317-326 (1994).
e	198_	Southern, et al., "Arrays of complementary-oligonucleotides for analysing the hybridisation behaviour
·		of nucleic acids," Nucleic Acids Research, 22(8):1368-1373 (1994).
	199	Storhoff et al., "One-Pot Colorimetric Differentiation of Polynucleotides with Single Base
		Imperfections Using Gold Nanoparticles Probes," J. Am. Chem. Soc., 120:1959-1964 (1998).
	200	Strobel, S. A., et al., "Site-Specific Cleavage of a Yeast Chromosome by Oligonucleotide-Directed
		Triple-Helix Formation," Science, 249:73-75 (1990).
·	201	Su, et al., "Interfacial Nucleic-Acid Hybridization Studied by Random-Primer 32P Labelling and Liquid-
		Phase Acoustic Network Analysis," Analytical Chemistry, 66(6):769-777 (1994).
	202	Telser, J., et al., "DNA Oligomers and Duplexes Containing a Covalently Attached Derivative of
*		Tris(2,2'-bipyridine)ruthenium(II): Synthesis and Characterization by Thermodynamic and Optical
		Spectroscopic Measurements," J. Am. Chem. Soc., 111:7221-7226 (1989).
	203	Telser, J., et al., "DNA Duplexes Covalently Labeled at Two Sites: Synthesis and Characterization by
		Steady-State and Time-Resolved Optical Spectroscopies," J. Am. Chem. Soc., 111:7226-7232 (1989).
	204	Timofeev, E. et al., "Regioselective Immobilization of Short Oligonucleotides to Aerylic-Copolymer.
		Gel," Nucleic Acids Research, 24(16): 3142-3148 (1996).
	204	Timofeev, E. et al., "Methidium Intercalator Inserted into Synthetic Oligonucleotides," Tetrahedron
		Letters, 37(47):8467-8470 (1996).
	206	Tour, "Conjugated Macromolecules of Precise Length and Constitution. Organic Synthesis for the
		Construction of Nanoarchitectures," Chem. Rev., 96:537-553 (1996).
	207	Tour, et al., "Self-Assembled Monolayers and Multilayers of Conjugated Thiols, α-ω-Dithiols, and
	·	Thioacetyl-Containing Adsorbates. Understanding Attachments between Potential Molecular Wires
		and Gold Surfaces," J. Am. Chem. Soc., 117:9529-9534 (1995).
	_208	Tullius, T.D. and B.A. Dombroski, "Iron(II) EDTA Used to Measure the Helical Twist Along Any
		DNA Molecule," Science, 230:679-681 (1985).
	209	Turro, N. J., et al., "Molecular Recognition and Chemistry in Restricted Reaction Spaces.
	··	Photophysics and Photoinduced Electron Transfer on the Surfaces of Micelles, Dendrimers, and
		DNA," Acc. Chem. Res., 24:332-340 (1991).

			· · · · · · · · · · · · · · · · · · ·	
Examiner Signature	Teresa Strelection	Date Considered	12/15/02	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English Language Translation is attached.

Please type a plus sign (+) inside this box	→ ‡
---	------------

PTO/SB/8B (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

nder the Par	perwork Reduction Act o	f 1995. r	o persons are required to res	U.S. Patent and Trad	lemark Office: U.S. DEPARTN unless it contains a valid OMB	MENT QF	COMMI	ERCE
			8	RADEN	Complete if Known	\Box	1001.	Image: Control of the
1	NEORMATIO	N DI	SCIOSUDE	Application Number	09/921,645	0	A	П
	INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary) Group Art Unit Examiner Name	Filing Date	August 03, 2001	Z	70			
				First Named Inventor	Meade et al.	BEE	80	П
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Group Art Unit	1656-1637		~ <u>`</u>			
	·			Examiner Name	Not Yet Assigned Te.	eros)	no	Q
Sheet	12	of	12	Attorney Docket Number	A-64411-2/RFT/RMS/R	MK	- 1-3-	

	<u> </u>	Attorney Docket Number A-64411-2/RF1/RMS/RMK
-	<u></u>	
		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
+	210	Turro, N., et al. "Photoelectron Transfer Between Molecules Adsorbed in Restricted Spaces,"
<u> </u>	-	Photochem. Convers. Storage Sol. Energy, Proc. Int. Conf., 8th, pp 121-139 (1990).
-	211	Uosake, K., et al., "A Self-Assembled Monolayer of Ferrocenylalkane Thiols on Gold as an Electron Mediator for the Reduction of Fe(III)-EDTA in Solution," <i>Electrochemica Acta.</i> , 36(11/12):1799-1801 (1991).
	212	Van Ness, J., et al., "A Versatile Solid Support System for Oligodeoxynucleotide Probe-Based— Hybridization Assays," <i>Nucleic Acids Research</i> , 19(12):3345-3350 (1991).
-	213	Velev et al., "In Situ Assembly of Colloidal Particles into Miniaturized Biosensors," The ACS Journal
	214	of Surfaces and Colloids, Langmuir, 15(11):3693-3698 (1999). Watson et al., "Hybrid Nanoparticles with Block Copolymer Shell Structures," J. Am. Chem. Soc., 121:462-463 (1999).
	215	Weber, et al., "Voltammetry of Redox-Active Groups Irreversibly Adsorbed onto Electrodes. Treatment Using the Marcus Relation between Rate and Overpotential," <i>Anal. Chem.</i> , 66:3164-3172 (1994).
-	216	Williams, et al., "Studies of oligonucleotide interactions by hybridisation to arrays: the influence of dangling ends on duplex yield," Nucleic Acids Research, 22(8):1365-1367 (1994).
	217	Winkler, J. R., et al., "Electron Transfer in Ruthenium-Modified Proteins," Chem. Rev., 92:369-379 (1992).
	218	Xu, et al., "Immobilization and Hybridization of DNA on an Aluminum(III) Alkanebisphosphonate Thin Film with Electrogenerated Chemiluminescent Detection," J. Am. Chem. Soc., 117:2627-2631 (1995).
2	219	Xu, et al., "Immobilization of DNA on an Aluminum(III) alkaneobisphosphonate Thin Film with Electrogenerated Chemiluminescent Detection," J. Am. Chem. Soc., 116:8386-8387 (1994).
	220	Yang, et al., "Growth and Characterization of Metal(II) Alkaneobisphosphonate Multilayer Thin Films on Gold Surfaces," J. Am. Chem. Soc., 115:11855-11862 (1993).
	221	Yershov, G. et al., "DNA Analysis and Diagnostics on Oligonucleotide Microchips," Proc. Natl. Acad. Sci. USA, 93:4913-4918 (1996).
	222	Zhou, et al., "Fluorescent Chemosensors Based on Energy Migration in Conjugated Polymers: The Molecular Wire Approach to Increased Sensitivity," J. Am. Chem. Soc., 117:12593-12602 (1995).
	223_	Bain et al., "Formation of Monolayers by the Coadsorption of Thiols on Gold: Variation in the Length of the Alkyl Chain," J. Am. Chem. Soc., 111:7164-7175 (1989).
	224	Zimmermann et al., "DNA stretching on functionalized gold surfaces." Nucleic Acids Res. 1994 Feb 11;22(3):492-7.

Examiner Signature	Tersa Strelectia	Date Considered	12/15/02

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English Language Translation is attached.